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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,597	12/21/2004	Gerard Laslaz	A242 1090US	2632

26158 7590 11/21/2008

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EXAMINER	
MORILLO, JANELL COMBS	
ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
11/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,597	LASLAZ ET AL.	
	Examiner	Art Unit	
	Janelle Morillo	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6-13,15,16,18,20,22 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6-13,15,16,18,20,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2, 4, 6-13, 15, 16, 18, 20, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU 348633A (SU'633).

Concerning amended claim 1, which mentions the transitional phrase "consisting of", SU'633 teaches an aluminum casting part with good strength properties (abstract) formed from aluminum alloy with 6-8% Si, 0.5-0.9% Mg, 0.3-0.7% Cu, 0.05-0.2% Zr, 0.1-0.2% Ti, 0.1-0.2% Mn, which overlaps or touches the boundary of the presently claimed ranges of Si, Mg, Cu, Ti, Zr, Fe, Mn, Zn, and Ni of claims 1, 2, 4, 7-11, 15, 16, 18). SU"633 further teaches the addition of a minimum of 0.01% B, 0.005% Be, which fall within "other elements <0.10 each and 0.30 total". SU'633 teaches a minimum of 0.1% MM and 0.1% V, which is held to be a close approximation of <0.10% MM and <0.1% V (an alloy with 0.1% MM or V is expected to have substantially the same properties as an alloy with 0.099% MM or 0.099% V, which falls within the instant claim). Further, the minimum total of other elements taught by SU'633 falls within the <0.30% total other elements limitation.

A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference

disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.), see MPEP 2144.05.

Because SU'633 teaches alloying ranges that overlap or are a close approximation of the presently claimed alloy composition, it is held that SU'633 has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," In re Peterson, 65 USPQ2d at 1379 (CAFC 2003).

Concerning the equation in claims 6 and 20, SU'633 teaches ranges of Mg and Cu that meet said limitation.

Concerning product by process claim 12, SU'633 does not mention (in the translated parts) the heat treatment temper applied to said Al-Si alloy. However, it would have been obvious to one of ordinary skill in the art to apply a peak strength T6 type temper to the alloy taught by SU'633 because said alloy is used for high strength manufacturing parts such as a diesel engine (abstract).

Concerning product claim 13, because SU'633 teaches said alloy is used for high strength heavy duty machinery body castings, it would have been obvious to one of ordinary skill in the art to cast the alloy taught by SU'633 into a cylinder head or crankcase, substantially as presently claimed.

Concerning claims 22 and 23, SU'633 does not specify the creep strain. However, because SU'633 teaches an overlapping alloy composition, foundry cast, and motivation to apply

the instant heat treatment temper, then substantially the same creep resistance is expected for the alloy of SU'633 as for the instantly claimed alloy.

3. Claims 1-2, 4, 6-13, 15, 16, 18, 20, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dulin (US 2,821,495A).

Concerning amended claim 1, which mentions the transitional phrase "consisting of", Dulin teaches an aluminum casting part with good strength properties (column 1 lines 14-17) formed from aluminum alloy with 5-10% Si, 0.25-0.6% Mg, 0.1-1.5% Cu, 0.01-1% of one or more of Zr, Ti, and Mn (column 2 lines 31-40), which overlaps or touches the boundary of the presently claimed ranges of Si, Mg, Cu, Ti, Zr, Fe, Mn, Zn, and Ni of claims 1, 2, 4, 7-11, 15, 16, 18). Because Dulin teaches an overlapping alloy composition, it is held that Dulin has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05.

Concerning the equation in claims 6 and 20, Dulin teaches ranges of Mg and Cu that meet said limitation.

Concerning product by process claim 12, Dulin teaches a solution heating, quenching, and artificially aging heat treatment temper applied to said Al-Si alloy (column 2 lines 41-63), which qualifies as a peak strength T6 type temper.

Concerning product claim 13, because Dulin teaches said alloy is used for high strength structural component castings (column 4 lines 16-17), it would have been obvious to one of ordinary skill in the art to cast the alloy taught by Dulin into a cylinder head or crankcase, substantially as presently claimed.

Concerning new claims 22 and 23, Dulin does not specify the creep strain. However, because Dulin teaches an overlapping alloy composition, foundry cast, as well as the instant heat treatment temper, then substantially the same creep resistance is expected for the alloy of Dulin as for the instantly claimed alloy.

Response to Arguments

4. In the response filed on August 11, 2008, applicant amended claims 1, 22, and 23 and submitted various arguments traversing the rejections of record. The examiner agrees that no new matter has been added.

5. As stated in the previous office action, applicant has overcome the rejections in view of JP'244, the examiner agrees that JP'244 does not teach or suggest a Al-Si alloy complete with the instant Fe maximum.

6. As previously stated, the declaration under 37 CFR 1.132 filed 4/27/2007 (along with the arguments filed 4/6/2007) was sufficient to overcome the rejection of claims 1-20 based upon FR'927. The examiner agrees that FR'927 teaches a range of V outside the instant claims. However, said declaration does not show unexpected results with respect to the newly applied art of Dulin or SU'633. Additionally, it is unclear that the entire claimed alloying ranges are expected to behave in a manner consistent with the tested examples.

Applicant's argument that the present invention is allowable over the prior art of record because the amounts of B, Be, and misch metal taught by SU'633 are excluded by the instant claim has not been found persuasive. The amounts of B and Be clearly fall within the claimed limitation of "other elements < 0.10 each and 0.30 total". As set forth above, SU'633 teaches a

minimum of 0.1% MM and 0.1% V, which is held to be a close approximation of <0.10% MM and <0.1% V (an alloy with 0.1% MM is expected to have substantially the same properties as an alloy with 0.099% MM, which falls within the instant claim, same goes for V). Further, the minimum total of other elements taught by SU'633 falls within the <0.30% total other elements limitation.

A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.), see MPEP 2144.05.

7. Applicant's argument that the present invention is allowable over the prior art of record of Dulin because the prior art is drawn to a different type of product from the instant Al-Si casting alloy has not been found persuasive. The motivation to cast the Al-Si alloy into a cylinder head or crankcase (instant claim 13) is as follows: because Dulin teaches said alloy is used for high strength structural component castings (column 4 lines 16-17), it would have been obvious to one of ordinary skill in the art to cast the alloy taught by Dulin into a cylinder head or crankcase, substantially as presently claimed.

8. Applicant's argument that the present invention is allowable over the prior art of record because there is no motivation to select Zr from the markush group taught by the prior art has not been found persuasive, because it is prima facie obvious to substitute equivalents known for the same purpose, see MPEP 2144.06. It would have been obvious to one of ordinary skill in the art to select Zr from the markush group taught by Dulin, because Dulin teaches Zr is a suitable element to provide the predictable result of grain refining and hardening.

9. Applicant's argument that the present invention is allowable over the prior art of record because the prior art of SU'633 does not suggest the hot creep resistance may be improved while maintaining ductility without the addition of V has not been found persuasive. Similarly, Applicant's argument that the present invention is allowable over the prior art of record because Dulin does not teach or suggest the addition of Zr to Cu and Mg without the addition of further hardening or refining elements has not been found persuasive. Though applicant has amended the transitional phrase from "consisting essentially of" to "consisting of", the instant ranges of V and other hardening elements taught by the prior art *fall within or are a close approximation* of the claimed limitation of "other elements < 0.10 each and 0.30 total".

10. Applicant's argument that the present invention is allowable over the prior art of record because Dulin strongly suggests adding Zr, Mn, Ni, Cr, B, and Be, the examiner points out Dulin states "0.01-1% of one or more of the well known grain refining and hardening elements of the group composed of boron, titanium, chromium, manganese, zirconium, beryllium and nickel" (column 2 lines 37-40). Only one of the elements from this markush group is required by Dulin.

11. Applicant's argument that the present invention is allowable over the prior art of record because SU'633 or Dulin do not specify the creep strain has not been found persuasive. Similarly, the argument that the present invention is allowable over the prior art of record because Dulin a) is not reasonably relevant to the problem addressed by the claimed invention or b) teaches away from the claimed invention has not been found persuasive.

With respect to applicant's argument of additional advantages or latent properties (such as creep resistance), prima facie obviousness is not rebutted by merely recognizing additional advantages or latent properties present in an otherwise known invention (substantially overlapping alloy product taught by the prior art). In re Wiseman, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979), see MPEP 2145.

Because the prior art teaches an overlapping alloy composition, foundry cast, and motivation to apply the instant heat treatment temper, then substantially the same creep resistance is expected for the alloy of the prior art as for the instantly claimed alloy.

Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's product (unexpected creep resistance by virtue of the instantly claimed selection of alloying ranges, etc).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 7:30 am- 4:00 pm Mon-Wed.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. M./
Examiner, Art Unit 1793
November 18, 2008

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/518,597	LASLAZ ET AL.	
	Examiner	Art Unit	
	Janelle Morillo	1793	